A Transect Through the Everglades: Environments, Facies, and Holocene Sea Level Rise on a Low-Energy Shoreline

This trip examines the geology of Everglades National Park (ENP) through a north-to-south transect that examines the modern depositional settings and the theme of the Holocene sea level transgression on the south Florida Platform. January is thought to be the best time of the year to visit the Park.

One might question a geological fieldtrip to such a flat, outcrop-poor location such as the Everglades. This trip, however, demonstrates the significance of the micro-environment and integration of biology and geology, especially with predictions of rising sea level in the 21st century. Low-lying coastal areas will be the first to record changes in sea level and will likely show the greatest amount of change in a relatively short period of time. The close interaction between geology, topography, hydrology, and biology is exceptionally well illustrated in Everglades National Park.

After departing the Visitors Center, we will start by examining the exposed Pleistocene bedrock (Miami Oolite) that forms the elevated pinelands or rocky glades on the east central part of the Park (Stop 1). One of the real geologic mysteries of the Park is the elongate rock ridges that occur in several places. We will briefly stop at Rock Reef Pass on our way to the second stop. Stop 2 is at the Pa-hay-okee Tower to overview the "River of Grass" freshwater slough and its features. Stop 3 will examine the hardwood tree hammock at Mahogany Hammock and provide the first look at the carbonate-producing microbial setting. Stop 4 focuses on the freshwater microbial carbonate deposits that make up a large area of the south-central ENP and are thought equivalent to the freshwater limestone often seen in the subsurface Pleistocene sequences of South Florida.

Continuing southward, we will stop for a picnic lunch at Nine Mile Pond and then transition into the coastal mangrove fringe with a stop at West Lake (Stop 5) and discuss the formation of mangrove peat. Continuing south from West Lake we will drive through a thick mangrove forest toward Florida Bay. The final stop on the trip (Stop 6) takes us to Flamingo on Florida Bay to view the Flamingo marl, an accumulation of marine storm deposits built about 1-2 feet above sea level to form the coastal levee.

From Flamingo we will return to Miami for the evening bar-b-que at the Coconut Grove Sailing Club.